

Listing of Claims

1-19 (cancelled).

20. (Currently Amended) A method of radio communication comprising:

at a mobile station:

maintaining at least a first communication group set comprising an ordered list of two or more user groups for the purpose of scanning for radio frequency activity among at least some or all of the groups, each of the user groups communicating by an ETSI direct mode communication on an associated direct mode radio frequency channel for the group; and

conducting a surveillance procedure that includes periodically sampling each of the direct mode radio frequency channels to determine if there is any radio frequency activity comprising a direct mode communication amongst each group on the direct mode radio frequency channel;

wherein the first communication group set comprises user groups (A, B, C) which communicate together by direct mode communication on an associated direct mode radio frequency channel for the group, and

wherein each of the direct mode radio frequency channels associated with the groups of the ordered list is sampled periodically to determine if there is any radio frequency activity comprising a direct mode communication on the direct mode radio frequency channel.

21. (Previously Presented) The method according to claim 20 wherein each of the direct mode radio frequency channels is sampled to detect a presence signal indicating presence of a particular group associated with the direct mode channel on the direct mode channel.

22. (Currently Amended) The method according to claim 20 wherein samples of at least some or all consecutive group radio frequency channels whose state is free or unknown are conducted in a single frame.

23. (Currently Amended) The method according to claim 20 wherein if there is currently no group activity on any of the surveyed channels, then a mobile station acting as a first master mobile station initiating a call or service to start on any of the groups determines a physical and logical time division pattern for all surveyed channels.

24. (Currently Amended) The method according to claim 20-23 wherein all other mobile stations other than the first master mobile station detecting ~~a~~ the first call or service, synchronise to the time division pattern, adopting the same frame and slot numbering as ~~a~~ the first master mobile station.

25. (Currently Amended) The method according to claim 23-24 wherein each master mobile station making a direct mode call transmits a presence signal in a specific time slot of the time division pattern to indicate ~~a~~ the group to which ~~the~~ that direct mode call relates.

26. (Currently Amended) The method of direct mode radio communication according to claim 25 wherein the specific time slot in which a particular master mobile station transmits ~~a~~ the associated presence signal is related to a position within the ordered list of the group that the particular master mobile station is communicating with.

27. (Currently Amended) The method of direct mode radio communication according to claim 26 wherein the specific time slot in which the particular master mobile station transmits is within a TETRA request bit map associated frame related to the position within the ordered list of the group that the particular master mobile station is communicating with.

28. (Currently Amended) The method of direct mode radio communication according to claim 26 wherein the particular master mobile station signals all call or service recipients that the TETRA request bit map associated time slots are not available for random access requests.

29. (Currently Amended) The method of direct mode radio communication according to claim 26 wherein any slave or idle mobile station surveys a specific time slot on a relevant channel to determine if there is any radio frequency activity, the specific time slot channel being related to the position within the ordered list of the group that the slave or idle mobile station is currently surveying.

30. (Currently Amended) A mobile station ~~for direct mode communication~~ comprising:

storage means storing at least a first direct mode group set comprising an ordered list of two or more user groups together with their respective associated direct mode radio frequency channels, for the purpose of scanning for alternative direct mode radio frequency activity among at least some ~~or all~~ of the groups;

wherein the mobile station is operable, for those groups in the ordered list whose radio frequency channel state is free or unknown, to conduct a channel surveillance procedure wherein each of the direct mode radio frequency channels associated with the groups of the ordered list is sampled periodically to determine if there is any radio frequency activity comprising an ETSI direct mode communication.

31. (Previously Presented) The method of direct mode radio communication according to claim 20 wherein the surveillance procedure is performed independent of whether the mobile station is in an idle state or whether the mobile station is participating as a listener in a direct mode communication.

32. (Previously Presented) The method of direct mode radio communication according to claim 20 further comprising permitting the mobile station to join a call from any group for which direct mode communication was detected by the surveillance procedure as a listener or to initiate a call to members of the detected group.

33. (New) The method according to claim 21 wherein when the mobile station is active in a call or service, the mobile station samples one of the direct mode radio frequency channels to detect the presence signal during each currently unassigned time slot.

34. (New) The method according to claim 33 wherein the time slot in which each presence signal is transmitted is dependent on a position within the ordered list of the groups, a unique mapping existing between the time slot and the position within the ordered list of groups.

35. (New) The method according to claim 33 when if the number of groups exceeds the number of currently unassigned time slots, the mobile station samples one of the direct mode radio frequency channels to detect the presence signal during a time slot normally reserved for slave or idle but occupied mobile stations.

36. (New) The method according to claim 33 wherein the mobile station only listens to direct mode radio frequency channels of groups to which the mobile station is entitled to join.

37. (New) The method according to claim 20 wherein each slave and idle mobile station listens to a different direct mode radio frequency channel during a time slot assigned to that direct mode radio frequency channel for a presence signal indicating activity in a group associated with that direct mode radio frequency channel, the time slots being different for each direct mode radio frequency channel.

38. (New) The method according to claim 20 wherein a master mobile station, having initiated a call, listens to a different direct mode radio frequency channel during a time slot assigned to that direct mode radio frequency channel for a presence signal indicating activity in a group associated with that direct mode radio frequency channel, the time slots being different for each direct mode radio frequency channel.

39. (New) The method according to claim 20 wherein a master mobile station, having initiated a call, listens to the same direct mode radio frequency channel during different time slots for a presence signal indicating activity in a particular group, each group associated with a unique time slot.